

Appln. No.: 10/019,919

Amendment Dated: September 29, 2003

Reply to Office action of 05/29/2003

The following listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

Claims 1.-11 Canceled.

12. [[11.]] (Currently amended) A method of making mounting a disc
brake system, comprising:

providing at least one brake disc having braking surfaces on opposite sides of the at least one brake disc;

supporting interconnecting the at least one brake disc [on] and a rotatable mounting with drive keys such that the at least one brake disc is rotatable with the rotatable mounting and slideable axially relative to the rotatable mounting;

arranging at least one pair of friction elements on the opposite sides of the at least one brake disc operative when actuated to axially displace the at least one braking brake disc and frictionally engage the braking surfaces of the at least one brake disc to effect braking action of the at least one brake disc and the rotatable mounting; and

mounting a plurality of resilient device devices at circumferentially spaced equi-spaced locations on the at least one brake disc and each associated with a drive key and slideable axially with the at least one brake disc and exerting a constant resilient bias force between the at least one brake disc and the rotatable mounting for centering the brake disc relative to the mounting.

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13. [[12.]] (Currently amended) The method of claim [[11]] 12 wherein the resilient device is provided in the form of a plurality of resilient spring members mounted on and movable with the at least one brake disc.

14. [[13.]] (Currently amended) A method of mounting an axially movable brake disc on a rotatable mounting of a disc brake system, comprising: providing a plurality of resilient device devices, adapted to act between the brake disc and the rotatable mounting for the brake disc at circumferentially spaced equi-spaced positions around the brake disc, and symetrically mounting the resilient device on the brake disc for axial movement with the brake disc and to apply a centering and anti-tilt resilient bias force directed from the brake disc to the rotatable mounting.

15. [[14.]] (Currently amended) A disc brake system comprising:

a rotatable mounting;

~~at least one brake disc supported on said rotatable mounting for relative axial displacement and for rotation therewith, said at least one brake disc having opposite sides and, braking surfaces on said opposite sides;~~

~~drive keys interconnecting said brake disc and said mounting for rotation therewith while allowing relative axial displacement therebetween;~~

at least one pair of friction elements operative when actuated to frictionally engage said braking surfaces of said at least one brake disc to effect braking action of said at least one brake disc and said rotatable mounting; and

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a plurality of resilient device devices mounted at circumferentially spaced equi-spaced locations on said at least one brake disc and each associated with a drive key and movable axially with said at least one brake disc relative to said rotatable mounting, said resilient device devices acting between said at least one brake disc and said rotatable mounting to apply a resilient bias force directed from said at least one brake disc to said rotatable mounting for centering said brake disc.

16. [[15.]] **(Currently amended)** The brake disc system of claim [[14]]

15 wherein ~~said at least one brake disc includes drive keys engaging associated drive keyways of said rotatable mounting~~, said resilient device straddling straddles said drive keys of said at least one brake disc.

17. [[16.]] **(Currently amended)** The disc brake system of claim [[14]]

15 wherein said resilient device comprises at least one leaf spring having resilient flanges engaging said at least one brake disc.

18. [[17.]] **(Currently amended)** The disc brake system of claim [[14]]

15 wherein said spring resilient device comprises at least one spring disposed under stress between said at least one brake disc and said rotatable mounting to exert said resilient bias force therebetween.

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19.[[18.]] **(Currently amended)** A disc brake system comprising: an axially movable brake disc supported on a rotatable mounting; a plurality of resilient device devices adapted to act between said brake disc and said rotatable mounting at circumferentially spaced equi-spaced positions around said brake disc, said resilient device being symetrically mounted on said brake disc for axial movement with said brake disc and to apply a centering and anti-tilt resilient bias force directed from said brake disc to said rotatable mounting.

20.[[19.]] **(Currently amended)** The brake disc system of claim [[18]]
19 wherein said brake disc includes drive keys engaging associated drive keyways of said rotatable mounting, said resilient device straddling said drive keys of said brake disc.

21.[[20.]] **(Currently amended)** The disc brake system of claim [[18]]
19 wherein said resilient device comprises at least one leaf spring having resilient flanges engaging said brake disc.

22.[[21.]] **(Currently amended)** The disc brake system of claim [[18]]
19 wherein said spring device comprises at least one spring disposed under stress between said brake disc and said rotatable mounting to exert said resilient bias force therebetween.

23. **(New)** A disc brake system as set forth in claim 15 wherein each resilient device comprises a spring wire.

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24. (New) A disc brake system as set forth in claim 23 wherein said spring wire defines an endless loop having two inwardly-directed portions defining a waist acting upon the brake disc and around the associated drive key of the brake disc and lateral side portions acting upon the mounting.

25. (New) A disc brake system as set forth in claim 24 wherein said side portions define upturned ends presenting curved portion abutting said mounting.

26. (New) A disc brake system as set forth in claim 23 wherein each wire spring includes an end portion engaging one side of said brake disc and a hairpin portion engaging the mounting on the other side of said brake disc.

27. (New) A disc brake system as set forth in claim 26 including a central portion between said end and hairpin portions engaging said brake disc with said hairpin portion disposed to react between said mounting and said disc.

28. (New) A disc brake system as set forth in claim 23 wherein said wire spring defines a loop having ends engaging said brake disc and bowed between said ends to engage said mounting.

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29. (New) A disc brake system as set forth in claim 23 wherein said wire spring defines four double loops defining an X-shape as viewed in side elevation with an opening therebetween surrounding a drive key.

30. (New) A disc brake system as set forth in claim 29 wherein said X-shape includes upper arms abutting said brake disc and lower arms abutting said mounting.

31. (New) A disc brake system as set forth in claim 22 wherein said resilient device comprises a strip defining a plurality of apertures with each aperture straddling a drive key.

32. (New) A disc brake system as set forth in claim 31 wherein each strip extending chordally relative to said brake disc.